

## Abstracts

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with constipation and 1:1 matched controls without constipation. Two- part semi-logarithmic multivariate regression models were estimated to assess the impact of constipation on all-cause resource utilization and costs. Smearing estimates were applied to interpret results of the semi-logarithmic models. **RESULTS:** We identified 39,485 patients of whom 2,519 (6.4%) had constipation. Most patients with constipation were female (66%) and  $\geq 45$  years old (68%). Compared to controls, the constipation group had higher rates of concurrent use of  $\geq 2$  opioids (36% vs 24%;  $p < 0.001$ ), discontinuation (31% vs 25%;  $p < 0.001$ ), and switching (45% vs 28%;  $p < 0.001$ ) between opioids. Patients with constipation were more likely to have inpatient admission (odds ratio [OR] = 2.13;  $p < 0.001$ ), emergency (OR = 2.25;  $p < 0.001$ ), outpatient visits (OR = 9.45;  $p < 0.001$ ), skilled nursing (OR = 2.26;  $p < 0.001$ ), hospice (OR = 2.27;  $p < 0.001$ ) and home health services (OR = 1.54;  $p < 0.001$ ). Patients with constipation had significantly higher all-cause costs for emergency (\$1,277 vs. \$588), outpatient (\$3,635 vs \$1,861), nursing facility (\$1,885 vs. \$613), home health (\$1,909 vs. \$1,069) and prescription drug (\$12,005 vs \$6,809) services compared to patients without constipation. **CONCLUSION:** Presence of constipation in opioid-treated patients was found to have significant impact on opioid use patterns, health care utilization, and associated costs.

## PGII2

**THE DUEC (DIGITAL ULCERS ECONOMIC COST) STUDY: ECONOMIC BURDEN OF DIGITAL ULCERS IN ITALIAN PATIENTS AFFECTED BY SYSTEMIC SCLEROSIS**

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**OBJECTIVES:** To estimate the economic burden of Digital Ulcers (DU) in patients affected by Systemic Sclerosis (SSc, scleroderma), in the perspective of the NHS, patients, and society. **METHODS:** Pilot, observational study based on a retrospective, one-year, data collection of clinical characteristics and consumption of resources in the target population, at the Rheumatology Unit of the University Hospital in Padova. EC approval and informed consent were obtained. Clinical records of adults with limited/diffuse SSc, who developed  $>1$  new DU (from September 2005 to April 2006) were analysed. Direct cost and indirect cost per patient/year were calculated using 2007 published tariffs and market values. **RESULTS:** Twenty patients (90% females) (age  $51 \pm 12$  yr), 60% affected by limited SSc and 80% by severe DU (average nDU = 3) were included. Twenty percent of patients had longer SSc history and more severe DU. All patients received home treatments; 55% also received outpatient care; 85% received on average 3.7 cycles of prostanoids (iloprost or alprostadil) in the DH setting, 15% were also hospitalised. DU complications, mostly superinfections, occurred in 85% of patients. 80% of patients healed. In the NHS perspective, cost of DU is on average €23,730 per patient/year, 71.8% due to DH treatments (including prostanoids) and 23.7% to management of complications; cost per patient varies from €20,533 (no complications, average nDU = 1) to €24,295 (with complications, average nDU = 4); main cost driver is the number of DH accesses. Out-of-pocket expenditure is lower for patients with complications (€360 vs. €900/year) as cost of complications is mainly borne by the NHS. Cost/patient/year is on average €26,756 in the societal perspective (€27,309 and €23,619 with/without complications); indirect costs increase when complications occur. **CONCLUSION:** Despite the small sample, DU economic burden is relevant because of DH treatments and complications' management. In

absence of complications, cost of management shifts to patients' charge.

## PGII3

**THE EPIDEMIOLOGY AND HEALTH CARE RESOURCE USE IN PATIENTS WITH CROHN'S DISEASE: A POPULATION BASED UK STUDY**

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**OBJECTIVES:** Crohn's disease (CD) is a potentially expensive disease as it is a chronic, not curable condition with high hospitalisation rates. The objective of the study was to estimate the health care resource use and epidemiology in a large UK population. **METHODS:** This was a retrospective study using NHS inpatient data (HES data) from 2001 over a period of 5 years representing England (population in 2001 49,140,000). To compare these results data from the region of Cardiff, Wales, UK (population in 2003 approximately 434,000) was used. This data contains inpatient, outpatient, biochemistry and mortality data over a period of at least 12 years that has undergone record linkage. Patients included were those with a diagnosis of CD (ICD-10 K50\*) as cause of admission. Number, type and method of admission, incidence and survival were analysed. HRGs were used to calculate inpatient costs. **RESULTS:** A total of 18,573 patients were identified in the NHS data [644 Cardiff data], of whom 7,666 (41.3%) [250 (38.8%) Cardiff data] were male. The average incidence was 14 per 100,000 per year. Mean length of stay for primary index admissions was 9.2 (SD 14.7) days and mean costs  $\leq 2304$  (SD  $\leq 2778$ ). Re-admission rates (primary or secondary ICD code) in the year after index admission were 1.36 (SD 3.26) and disease related 0.83 (SD 2.34) per patient; average length of stay per admission were 6.5 (SD 14.6), average costs  $\leq 1776$  (SD  $\leq 2692$ ). Surgery rate in the year after index admission was 0.16 (SD 0.46); average length of stay 12.5 (SD 22.1), average costs per surgery  $\leq 4048$  (SD  $\leq 4158$ ). The rates declined over the follow-up years. Hospital days, costs and rates approximately matched the Cardiff data, but were slightly higher. **CONCLUSION:** This study provides epidemiological and resource use information on patients with CD. It confirms the high resource use and gives insight into determinants.

## PGII4

**THE EPIDEMIOLOGY AND HEALTHCARE RESOURCE USE IN PATIENTS WITH ULCERATIVE COLITIS: A POPULATION BASED UK STUDY**

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**OBJECTIVES:** Ulcerative colitis (UC) is a potentially expensive disease since it is a chronic condition with high hospitalisation rates. The objective of the study was to estimate the health care resource use and epidemiology in a large UK population. **METHODS:** This was a retrospective study using NHS inpatient data (HES data) from 2001 over a period of 5 years representing England (population in 2001 49,140,000). To compare these results data from the region of Cardiff, Wales, UK (population in 2003 approximately 434,000) was used. This data contains inpatient, outpatient, biochemistry and mortality data over a period of at least 12 years that has undergone record linkage. Patients included were those with a diagnosis of UC (ICD-10 K51\*) as cause of admission. Number, type and method of admission,